Appendix G

Noise Analysis

EXPANSION OF JAMES A. MUSICK FACILITY; RELOCATION OF INTERIM CARE FACILITY; SOUTHEAST SHERIFF'S STATION

NOISE ANALYSIS

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1.0 EXISTING NOISE

1.1 Introduction

The purpose of the Existing Noise section of the noise analysis is to document the existing noise levels in the vicinity of the James A. Musick facility and to define the terminology used in this community noise analysis. The Musick facility in located in the vicinity of MCAS El Toro, Bake Parkway, Alton Parkway, and Irvine Boulevard. Each of these are potential noise sources that may impact the facility. In addition, there are residential areas in the vicinity of the site that may be impacted by noise generated by the project. This analysis will address the impact of site generated noise on surrounding land uses as well as the impact of noise on the noise sensitive uses proposed on the site.

1.2 Definitions and Background

Community Noise Equivalent Level - Definition

The noise measure, COMMUNITY NOISE EQUIVALENT LEVEL (CNEL), is the most commonly used noise descriptor for land-use planning purposes in the State of California. CNEL is a time weighted 24 hour annual energy average noise level based on the A-weighted decibel. It is worthwhile to examine CNEL in more illuminating terms.

CNEL can be more comprehensibly defined by describing its component parts. CNEL is the combination of the loudness of a noise event, the duration of the

noise event and the time of occurrence of the event. The idea behind CNEL is that noises that occur during some times of the day cause more impact than those occurring at other times of the day. Three distinct time periods have been identified; daytime, evening, and nighttime. These time periods have been defined as 7AM to 7PM for daytime, 7PM to 10PM for evening, and 10PM to 7AM for nighttime. Noises that occur during evening and nighttime periods are penalized because of increased noise sensitivity during this period. The actual penalty that is applied differs for the two periods and can be described two different but equivalent ways.

One way of describing the penalties built into CNEL is to view the penalty as an "additional noise factor". For noises that occur during the evening hours a 5 dB penalty is added to the noise. For noises that occur during the nighttime hours a 10 dB penalty is added to the noise. This description best explains how the penalty works when applied to continuous noise sources such as highways. Another way of describing the time weighting factors is to view the penalties as an increase in the number of noise events. This method is used for event oriented noise sources such as aircraft flyovers. Each flyover that occurs during the evening hours is equivalent to 3 daytime flyovers (i.e., multiply evening noise events by 3) and each nighttime flyover is equivalent to 10 daytime flyovers (i.e., multiply nighttime flyovers by 10). It is easily seen that evening and nighttime noises are severely penalized for occurring during noise sensitive time periods.

Noise Standards

The County of Orange uses typical noise standards for evaluating noise impacts on various land uses. These standards are in terms of the Community Noise Equivalent Level (CNEL). For residential land uses the County uses an outdoor noise standard of 65 CNEL. Additionally, 45 CNEL is used for residential interior noise environments. These same standards are recommended by the State of California in its published guidelines for the development of General Plan Noise Elements and are used by the Cities of Lake Forest and Irvine in their General Plan Noise Elements. In addition the County of Orange has adopted a Noise Ordinance which establishes maximum noise levels for stationary noise sources.

Existing Noise Contours

Using the FHWA Highway noise model noise contours were developed for the roads in the vicinity of each of the project. The highway noise model used was the Highway Noise Model published by the Federal Highway Administration

("FHWA Highway Traffic Noise Prediction Model", FHWA-RD-77-108, December 1978). The FHWA Model uses traffic volume, vehicle mix, vehicle speed, and roadway geometry to compute the "equivalent noise level". A computer code has been written which computes equivalent noise levels for each of the time periods used in CNEL and generates the CNEL noise levels. Table 1 describes the the traffic for existing conditions and Table 2 describes distances to the CNEL contours from the centerline of the road (neglecting topographic effects or noise barriers which would reduce noise levels and move contours closer to the road).

Table 1
EXISTING TRAFFIC VOLUMES AND SPEEDS

Roadway	ADT	Speed
SAND CANYON ROAD		
I-5 Freeway to Trabuco Road	23,000	45
Trabuco Road to Irvine Blvd	16,000	45
North of Irvine Blvd.	10,000	45
ALTON PARKWAY		
SR-133 to Irvine Center Dr.	20,000	45
Irvine Center Dr. to I-5 Freeway	35,000	45
North to I-5 Freeway	53,000	45
West of Rockfield	45,000	45
Rockfield to Muirlands	45,000	45
Muirlands to Jeronimo	41,000	45
Jeronimo to Toledo	32,000	45
Toledo to Trabuco	14,000	45
BAKE PARKWAY		
Rockfield to I-5 Freeway	16,000	45
Rockfield to Muirlands	15,000	45
Muirlands to Jeronimo	21,000	45
Jeronimo to Toledo	19,000	45
Toledo to Trabuco	21,000	45
North of Trabuco	22,000	45

Table 1 (Continued)
EXISTING TRAFFIC VOLUMES AND SPEEDS

Roadway	ADT	Speed
LAKE FOREST DRIVE		
I-5 Freeway to Rockfield	73,000	45
Rockfield to Muirlands	45,000	45
Muirlands to Jeronimo	36,000	45
Jeronimo to Toledo	32,000	45
Toledo to Trabuco	30,000	45
North of Trabuco	27,000	45
RIDGE ROUTE		
Rockfield to Muirlands	9,000	45
Muirlands to Jeronimo	12,000	45
Jeronimo to Toledo	10,000	45
Toledo to Trabuco	7,000	45
EL TORO ROAD		
I-5 Freeway to Rockfield	52,000	45
Rockfield to Muirlands	41,000	45
Muirlands to Jeronimo	37,000	45
Jeronimo to Toledo	34,000	45
Toledo to Trabuco	29,000	45
North of Trabuco	29,000	45
IRVINE BOULEVARD		
West of Sand Canyon Road	21,000	45
East of Sand Canyon Road	24,000	45
TRABUCO ROAD		
West of Alton Parkway	23,000	45
Alton Parkway to Bake Parkway	30,000	45
East of Bake Parkway	25,000	45
West of Lake Forest	30,000	45
Lake Forest to Ridge Route	29,000	45
Ridge Route to El Toro Road	26,000	45
El Toro Road to Los Alisos	26,000	45
TOLEDO WAY		
Alton Parkway to Bake Parkway	12,000	45
Bake Parkway to Lake Forest	8,000	45
Lake Forest to Ridge Route	7,000	45
Ridge Route to El Toro Road	6,000	45

Table 1 (Continued)
EXISTING TRAFFIC VOLUMES AND SPEEDS

Roadway	ADT	Speed
JERONIMO ROAD		
Alton Parkway to Bake Parkway	13,000	45
Bake Parkway to Lake Forest	14,000	45
Lake Forest to Ridge Route	15,000	45
Ridge Route to El Toro Road	16,000	45
El Toro Road to Los Alisos	25,000	45
BARRANCA PARKWAY		
SR-133 to Irvine Center Dr.	15,000	45
Irvine Center Dr. to I-5	20,000	45
I-5 to Technology	23,000	45
Technology to Alton Parkway	20,000	45
MUIRLANDS BOULEVARD		
Alton Parkway to Bake Parkway	42,000	45
Bake Parkway to Lake Forest	21,000	45
Lake Forest to Ridge Route	23,000	45
Ridge Route to El Toro Road	23,000	45
El Toro Road to Los Alisos	24,000	45
ROCKFIELD BOULEVARD		
Bake Parkway to Lake Forest	26,000	45
Lake Forest to Ridge Route	20,000	45
Ridge Route to El Toro Road	22,000	45
El Toro Road to Los Alisos	20,000	45
I-5 FREEWAY		
Jeffrey Road to Sand Canyon Rd.	186,000	60
Sand Canyon Ave. to Alton Parkway	174,000	60
Alton Parkway to I-405 Freeway	156,000	60
I-405 Freeway to Bake Parkway	310,000	60
Bake Parkway to Lake Forest	310,000	60
Lake Forest to El Toro Road	266,000	60
El Toro Road to Alicia Parkway	249,000	60
I-405 FREEWAY		
SR-133 to Moulton Parkway	187,000	60
Moulton Parkway to I-5 Freeway	156,000	60

Table 2
DISTANCE TO EXISTING CNEL CONTOURS

Roadway	Distance to CNEL Contour From Centerline of Roadway (Feet) 70 CNEL	65 CNEL	60 CNEL
SAND CANYON ROAD			
I-5 Freeway to Trabuco Road	54	117	252
Trabuco Road to Irvine Blvd	43	92	198
North of Irvine Blvd.	31	67	145
ALTON PARKWAY			
SR-133 to Irvine Center Dr.	49	107	230
Irvine Center Dr. to I-5 Freeway	72	155	334
North to I-5 Freeway	95	204	440
West of Rockfield	85	183	395
Rockfield to Muirlands	85	183	395
Muirlands to Jeronimo	80	172	371
Jeronimo to Toledo	68	146	314
Toledo to Trabuco	39	84	181
North of Trabuco			
BAKE PARKWAY			
Rockfield to I-5 Freeway	43	92	198
Rockfield to Muirlands	41	88	190
Muirlands to Jeronimo	51	110	237
Jeronimo to Toledo	48	103	222
Toledo to Trabuco	51	110	237
North of Trabuco	53	114	245
LAKE FOREST DRIVE			
I-5 Freeway to Rockfield	117	253	545
Rockfield to Muirlands	85	183	395
Muirlands to Jeronimo	73	158	340
Jeronimo to Toledo	68	146	314
Toledo to Trabuco	65	140	301
North of Trabuco	60	130	281
RIDGE ROUTE			
Rockfield to Muirlands	29	63	135
Muirlands to Jeronimo	35	76	163
Jeronimo to Toledo	31	67	145
Toledo to Trabuco	25	53	114

Note: Does not account for topography or intervening noise barriers that reduce noise levels.

Table 2 (Continued)
DISTANCE TO EXISTING CNEL CONTOURS

Roadway	Distance to CNEL Contour From Centerline of Roadway (Feet) 70 CNEL	65 CNEL	60 CNEL
EL TORO ROAD			
I-5 Freeway to Rockfield	94	202	434
Rockfield to Muirlands	80	172	371
Muirlands to Jeronimo	75	161	346
Jeronimo to Toledo	70	152	327
Toledo to Trabuco	63	137	294
North of Trabuco	63	137	294
IRVINE BOULEVARD			
West of Sand Canyon Road	51	110	237
East of Sand Canyon Road	56	120	259
TRABUCO ROAD			
West of Alton Parkway	54	117	252
Alton Parkway to Bake Parkway	65	140	301
East of Bake Parkway	57	124	267
West of Lake Forest	65	140	301
Lake Forest to Ridge Route	63	137	294
Ridge Route to El Toro Road	59	127	274
El Toro Road to Los Alisos	59	127	274
TOLEDO WAY			
Alton Parkway to Bake Parkway	35	76	163
Bake Parkway to Lake Forest	27	58	125
Lake Forest to Ridge Route	25	53	114
Ridge Route to El Toro Road	22	48	103
JERONIMO ROAD			
Alton Parkway to Bake Parkway	37	80	172
Bake Parkway to Lake Forest	39	84	181
Lake Forest to Ridge Route	41	88	190
Ridge Route to El Toro Road	43	92	198
El Toro Road to Los Alisos	57	124	267

Note: Does not account for topography or intervening noise barriers that reduce noise levels.

Table 2 (Continued)
DISTANCE TO EXISTING CNEL CONTOURS

Roadway	Distance to CNEL Contour From Centerline of Roadway (Feet) 70 CNEL	65 CNEL	60 CNEL
BARRANCA PARKWAY			
SR-133 to Irvine Center Dr.	41	88	190
Irvine Center Dr. to I-5	49	107	230
I-5 to Technology	54	117	252
Technology to Alton Parkway	49	107	230
MUIRLANDS BOULEVARD			
Alton Parkway to Bake Parkway	81	175	377
Bake Parkway to Lake Forest	51	110	237
Lake Forest to Ridge Route	54	117	252
Ridge Route to El Toro Road	54	117	252
El Toro Road to Los Alisos	56	120	259
ROCKFIELD BOULEVARD			
Bake Parkway to Lake Forest	59	127	274
Lake Forest to Ridge Route	49	107	230
Ridge Route to El Toro Road	53	114	245
El Toro Road to Los Alisos	49	107	230
I-5 FREEWAY			
Jeffrey Road to Sand Canyon Rd.	495	1,066	2,296
Sand Canyon Ave. to Alton Parkway	473	1,019	2,197
Alton Parkway to I-405 Freeway	440	948	2,042
I-405 Freeway to Bake Parkway	695	1,498	3,228
Bake Parkway to Lake Forest	695	1,498	3,228
Lake Forest to El Toro Road	628	1,353	2,915
El Toro Road to Alicia Parkway	601	1,295	2,790
I-405 FREEWAY			
SR-133 to Moulton Parkway	443	955	2,057
Moulton Parkway to I-5 Freeway	393	846	1,823

Note: Does not account for topography or intervening noise barriers that reduce noise levels.

MCAS El Toro is very near the Musick facility. The noise contours used for planning purposes by the County of Orange, the City of Irvine and the City of Lake Forest were published by the military in the 1981 Air Installation Compatible Use Zone (AICUZ) Study. These noise contours were based on 72,000 annual jet operations and included F-4, A-4, and A-6 fighter and attack aircraft as the primary noise sources. Since the 1981 AICUZ the base has transitioned to an F/A-18 aircraft as the primary aircraft using the facility. Further, MCAS El Toro is scheduled for closure in the near future. The noise contours published in 1981 and adopted as a "Policy Implementation Line" in the County of Orange General Plan Noise Element and adopted as part the the General Plan Noise Elements for the City of Irvine and City of Lake Forest are shown in Exhibit 1. These noise contours show the site to be exposed to noise levels in the range of approximately 67 dB CNEL to 75 dB CNEL. While these noise levels represent existing noise levels on the site, the closure of MCAS El Toro will result in the elimination of these military noise contours on the site.

Residential areas southeast of the project site are have been historically exposed to military aircraft noise in excess 65 dB CNEL for those homes closest the base and the Musick facility. As the base closure has progressed and F/A-18 squadrons have been relocated to NAS Miramar, the noise exposure has been decreasing.

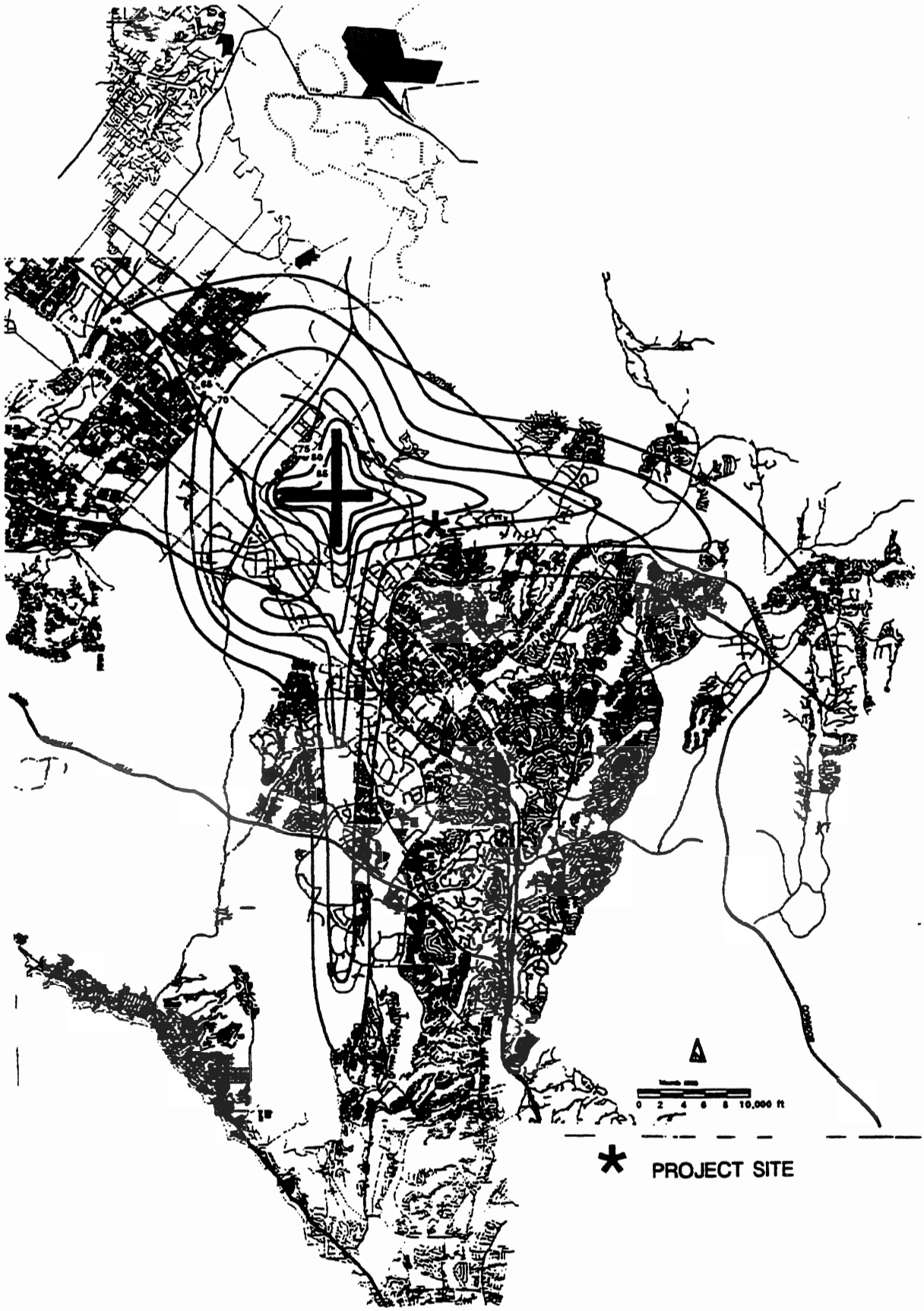
2.0 POTENTIAL NOISE IMPACTS

Potential noise impacts associated with jail site development may arise from construction activities, jail related traffic noise or on site stationary source noise impacts on surrounding land uses, and noise impacts of aircraft and traffic on the jail site. Each of these concerns is addressed below.

2.1 Construction Activities

Construction noise represents a short term impact on ambient noise levels. Noise generated by construction equipment, including trucks, graders, bulldozers, concrete mixers and portable generators can reach high levels. Construction equipment noise comes under the control of the Environmental Protection Agency's Noise Control Program (Part 204 of Title 40, Code of Federal Regulations). Presently, air compressors are the only equipment under strict regulation, and no new regulations are currently under consideration.

Noise levels for equipment which might be used for the excavation and construction of the proposed project are presented in Exhibit 2. Note that the noise levels presented are for a distance of 50 feet. The noise levels in Exhibit 2 decrease at a rate of approximately 6 dBA per doubling of the distance. Therefore, at 100 feet the



Source: 1981 AICUZ

Exhibit 1
MCAS El Toro CNEL Noise Contours

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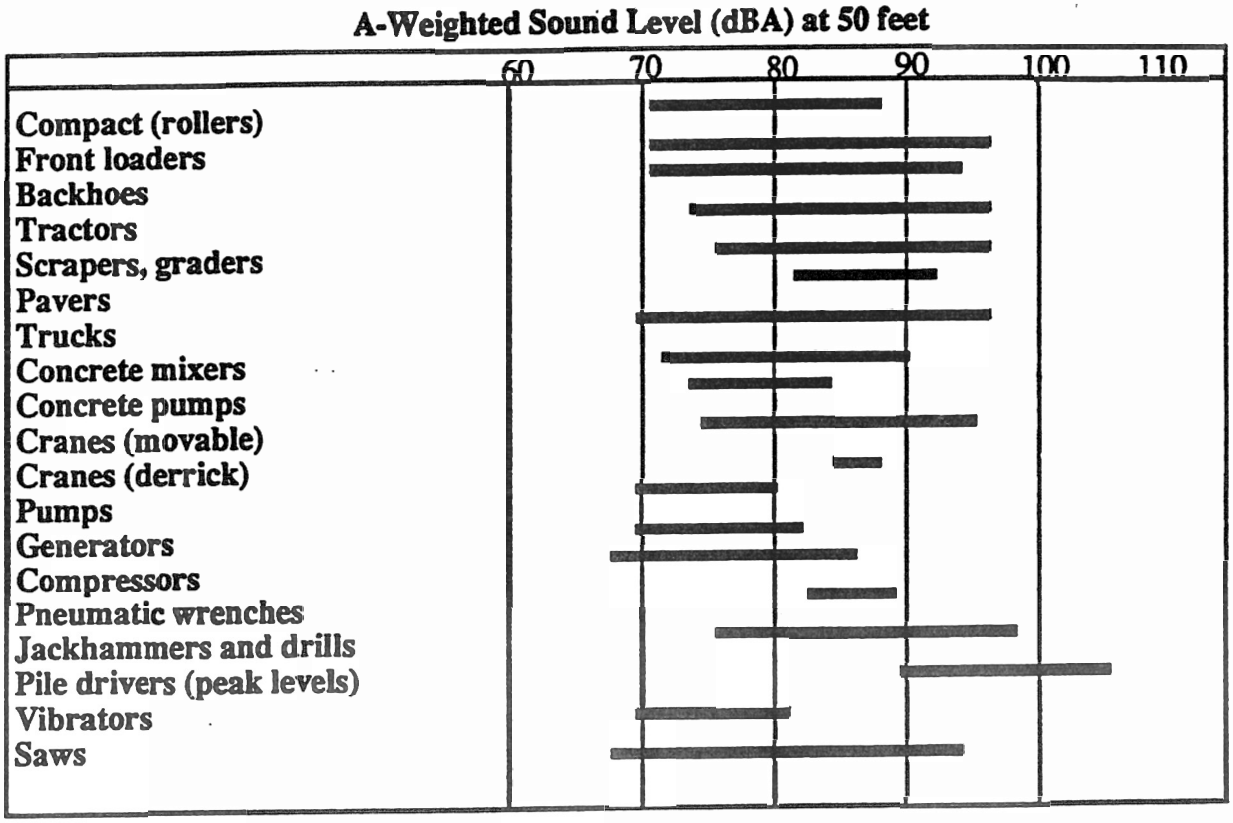

Source: "Handbook of Noise Control," by Cyril Harris, 1979.

Exhibit 2
Construction Noise Levels

MESTRE GREVE ASSOCIATES

noise levels will be about 6 dBA less than reported in the exhibit. Similarly, at 200 feet the noise levels would be 12 dBA less than indicated in the exhibit. Intervening structures or topography will act as a noise barrier, and reduce noise levels further.

The residential areas that may impacted by construction noise includes the nearby residential area southeast of the site in Lake Forest. There is base housing at MCAS El Toro west of the site, however closure and the fact that these residential units are more than 3000 feet from the site diminish the potential for construction noise to be a significant impact. The homes southeast of the site in Lake Forest are approximately 700 feet from the boundary of the project. At this distance it is not expected that construction noise would significantly impact any of these residences as long as construction activity is limited to the daytime hours as specified by local ordinance and construction traffic is not permitted on local residential streets.

2.2 Traffic Impacts on Surrounding Land Uses

The proposed development of the jail site will generate traffic, and as a result may alter noise levels in surrounding areas. To assess the impact of the proposed jail project on noise sensitive land uses adjacent to streets that will serve the jail, the increases in roadway noise along these streets were determined. These roadways were modeled for future traffic conditions with and without the project. The projected increases in the CNEL noise levels as a result of traffic increases are presented in Table 3.

Table 3
PROJECT SITE
INCREASE IN CNEL DUE TO TRAFFIC INCREASES (dB)

Roadway Link	Future ADT No Project	Future ADT With Project	Noise Increase (dB)
SAND CANYON ROAD			
I-5 Freeway to Trabuco Road	26	26	<0.1
Trabuco Road to Irvine Blvd	20	20	<0.1
North of Irvine Blvd.	18	18	<0.1
ETC (EASTERN TRANSPORTATION CORRIDOR)			
I-5 Freeway to Irvine Blvd	53	53	<0.1
North of Irvine Blvd.	19	19	<0.1
ALTON PARKWAY			
SR-133 to Irvine Center Dr.	29	29	<0.1
Irvine Center Dr. to I-5 Freeway	43	43	<0.1
North to I-5 Freeway	62	64	0.1
West of Rockfield	56	58	0.2
Rockfield to Muirlands	46	48	0.2
Muirlands to Jeronimo	52	54	0.2
Jeronimo to Toledo	36	38	0.2
Toledo to Trabuco	25	27	0.3
North of Trabuco	33	33	<0.1
BAKE PARKWAY			
Moulton to I-5 Freeway	43	43	<0.1
Rockfield to I-5 Freeway	49	50	<0.1
Rockfield to Muirlands	53	54	<0.1
Muirlands to Jeronimo	38	39	0.1
Jeronimo to Toledo	39	40	0.1
Toledo to Trabuco	44	45	<0.1
North of Trabuco	28	28	<0.1
LAKE FOREST DRIVE			
I-5 Freeway to Rockfield	51	51	<0.1
Rockfield to Muirlands	34	34	<0.1
Muirlands to Jeronimo	33	33	<0.1
Jeronimo to Toledo	36	36	<0.1
Toledo to Trabuco	27	27	<0.1
North of Trabuco	27	27	<0.1

Table 3 (Continued)
PROJECT SITE
INCREASE IN CNEL DUE TO TRAFFIC INCREASES (dB)

Roadway Link	Future ADT No Project	Future ADT With Project	Noise Increase (dB)
RIDGE ROUTE			
I-5 Freeway to Rockfield	17	17	<0.1
Rockfield to Muirlands	13	13	<0.1
Muirlands to Jeronimo	12	12	<0.1
Jeronimo to Toledo	10	10	<0.1
Toledo to Trabuco	9	9	<0.1
EL TORO ROAD			
I-5 Freeway to Rockfield	66	66	<0.1
Rockfield to Muirlands	47	47	<0.1
Muirlands to Jeronimo	53	53	<0.1
Jeronimo to Toledo	48	48	<0.1
Toledo to Trabuco	52	52	<0.1
North of Trabuco	46	46	<0.1
IRVINE BOULEVARD			
West of Sand Canyon Road	35	35	<0.1
Sand Canyon Rd to ETC	33	33	<0.1
East of Sand Canyon Road	34	35	0.1
TRABUCO ROAD			
West of Alton Parkway	36	37	0.1
Alton Parkway to Bake Parkway	42	44	0.2
East of Bake Parkway	36	36	<0.1
West of Lake Forest	36	36	<0.1
Lake Forest to Ridge Route	49	49	<0.1
Ridge Route to El Toro Road	48	48	<0.1
El Toro Road to Los Alisos	31	31	<0.1
TOLEDO WAY			
Alton Parkway to Bake Parkway	8	8	<0.1
Bake Parkway to Lake Forest	16	16	<0.1
Lake Forest to Ridge Route	16	16	<0.1
Ridge Route to El Toro Road	16	16	<0.1

Table 3 (Continued)
PROJECT SITE
INCREASE IN CNEL DUE TO TRAFFIC INCREASES (dB)

Roadway Link	Future ADT No Project	Future ADT With Project	Noise Increase (dB)
JERONIMO ROAD			
Alton Parkway to Bake Parkway	22	22	<0.1
Bake Parkway to Lake Forest	25	25	<0.1
Lake Forest to Ridge Route	13	13	<0.1
Ridge Route to El Toro Road	16	16	<0.1
El Toro Road to Los Alisos	29	29	<0.1
BARRANCA PARKWAY			
SR-133 to Irvine Center Dr.	20	20	<0.1
Irvine Center Dr. to I-5	28	28	<0.1
I-5 to Technology	29	29	<0.1
Technology to Alton Parkway	26	26	<0.1
MUIRLANDS BOULEVARD			
Alton Parkway to Bake Parkway	31	31	<0.1
Bake Parkway to Lake Forest	37	37	<0.1
Lake Forest to Ridge Route	29	29	<0.1
Ridge Route to El Toro Road	26	26	<0.1
El Toro Road to Los Alisos	27	27	<0.1
ROCKFIELD BOULEVARD			
Alton Parkway to Bake Parkway	15	15	<0.1
Bake Parkway to Lake Forest	23	23	<0.1
Lake Forest to Ridge Route	35	35	<0.1
Ridge Route to El Toro Road	28	28	<0.1
El Toro Road to Los Alisos	35	35	<0.1
I-5 FREEWAY			
Jeffrey Road to Sand Canyon Rd.	267	269	<0.1
Sand Canyon Ave. to Alton Parkway	228	230	<0.1
Alton Parkway to I-405 Freeway	229	229	<0.1
I-405 Freeway to Bake Parkway	409	410	<0.1
Bake Parkway to Lake Forest	392	392	<0.1
Lake Forest to El Toro Road	382	382	<0.1
El Toro Road to Alicia Parkway	336	336	<0.1
I-405 FREEWAY			
SR-133 to Moulton Parkway	190	191	<0.1
Moulton Parkway to I-5 Freeway	180	181	<0.1

In community noise assessments, changes in noise levels greater than 3 dBA are often identified as significant, while changes less than 1 dBA will not be discernible to local residents. In the range of 1 to 3 dBA residents who are very sensitive to noise may perceive a slight change. No scientific evidence is available to support the use of 3 dBA as the significance threshold. In laboratory testing situations, humans are able to detect noise level changes of slightly less than 1 dBA. However, in a community noise situation the noise exposure is over a long time period, and changes in noise levels occur over years, rather than the immediate comparison made in a laboratory situation. Therefore, the level at which changes in community noise levels become discernible is likely to be some value greater than 1 dBA, and 3 dBA appears to be appropriate for most people. The greatest increase in noise projected is 0.3 dBA and this will occur along Alton Parkway between Toledo Way and Trabuco Road. None of the increases are significant and none would be discernible to nearby residents.

2.3 Other On-Site Noise Source Impacts on Surrounding Community

The major on-site stationary noise is the Central Plant. This is a centralized boiler facility that is the mechanical center of the facility. The central plant is located in the south western corner of the project site, on the opposite side of the site from the existing Lake Forest residential area. The Central Plant is located approximately 1800 feet from the eastern boundary of the site which results in a total distance of approximately 2500 feet between the Central Plant and the residential area of Lake Forest Closest to the site. This distance of nearly 1/2 mile and the intervening structures will ensure that Central Plant noise will not exceed the noise standards of the County of Orange Noise Ordinance. The maintenance facility is adjacent to the Central Plant and is similarly isolated from the residential area of Lake Forest by distance and intervening structures.

The design of the facility is such that audible warning/alarm devices or public address systems are not located or used outdoors, as there are no outdoor use areas included in the facility. The Sheriffs Station in the southeast corner of the site nearest the Lake Forest residential area is the most likely location of a warning device noise source. This would be associated with the siren on a sheriff's vehicle. This type of noise, while it may occur at any time of the day or night, should not be a frequent occurrence. Sheriff's vehicles are normally on patrol throughout the community and dispatched to an emergency from their patrol location. This is in contrast to a fire station where the emergency vehicles are staged at the station and dispatched from the station. The result is more siren noise near a fire station than near a police or sheriffs station.

2.4 Noise Levels On-Site

2.4.1 Traffic Noise

Traffic volumes reported in the traffic study were used with the FHWA Highway Traffic Noise Model to project future unmitigated noise levels for the roadways that will impact the project site. The traffic volumes used are presented in Table 4. These volumes represent cumulative plus project traffic conditions.

Table 4
PROJECT SITE
FUTURE 2020 WITH PROJECT TRAFFIC VOLUMES AND SPEEDS

Roadway	ADT	Speed
ALTON PARKWAY		
North of Trabuco	33,000	45
BAKE PARKWAY		
North of Trabuco	28,000	45
TRABUCO ROAD		
Alton Parkway to Bake Parkway	44,000	45

The modeling results are reported in Table 5 in the form of distances to the 60, 65, and 70 CNEL contours on the project site. These projections do not take into account any barriers or topography that may reduce noise levels.

Table 5
PROJECT SITE
FUTURE 2020 WITH PROJECT NOISE LEVELS

Roadway	Distance to CNEL Contour From Centerline of Roadway (Feet) 70 CNEL	65 CNEL	60 CNEL
ALTON PARKWAY			
North of Trabuco	69	149	321
BAKE PARKWAY			
North of Trabuco	62	133	288
TRABUCO ROAD			
Alton Parkway to Bake Parkway	84	180	389

Note: Does not account for topography or intervening noise barriers that reduce noise levels.

2.4.2 Aircraft Noise

The project site is located adjacent to MCAS El Toro. The CNEL noise contours historically used for planning purposes and adopted by the County of Orange in the General Plan Noise Element were shown in Exhibit 1. These contours do not account for the closure and reuse of the base. The County of Orange, acting as the Local Reuse Agency, is presently reviewing alternative reuse plans and environmental documentation related to the reuse of the base. The Draft EIR for the reuse plan is considering 5 alternatives that include a civilian use air carrier airport alternative, a cargo and general aviation airport alternative, a non-airport alternative, a no project alternative that considers continued military use and a no project alternative that considers no reuse or activity on the base. The Draft EIR identifies the civilian air carrier airport as the proposed project. If the Board of Supervisors adopts this proposal, a Master Plan for the airport will be prepared. Until that time the Draft EIR recommends that the 'Policy Implementation Line' contained in the Orange County General Plan Noise Element be retained for the evaluation of noise/land use compatibility.

The 'Policy Implementation Line' is considerably larger than the noise contours for the civilian use air carrier airport. While the policy line shows a CNEL exposure of 67 to 75 dB CNEL (southern end of the site to the northern boundary), the noise contours for a civilian air carrier airport are estimated to be from less than 60 dB CNEL to approximately 66 dB CNEL (southern end of the

site to the northern boundary). Exhibit 3 shows the approximate location of noise contours across the project site for three separate conditions. These include the General Plan Noise Element contours labeled as 'AICUZ' contours in Exhibit 3, the calendar year 1994 CNEL contours, and the civilian air carrier noise contours labeled as 'Alternative A' in Exhibit 3. These latter contours were taken from Draft EIR #563.

In terms of land use/compatibility, the difference in contours may not be significant relative to County of Orange land use/noise policies. These policies are reproduced here as Exhibits 4 and 5. These tables are somewhat complex, but do provide substantial guidance on how to review this project. Essentially the policies prohibit new residential development where aircraft noise exposure exceeds 65 dB CNEL. Jails are not included as a land use category. For uses such as a hospital or a hotel/motel, the only requirement is that interior noise standards apply. For uses such as Group Quarters, Caretakers Units, and Executive Apartments an interior and exterior noise standard is applied. This latter group distinction from residential uses allows these uses in areas with airport noise exposure greater than 65 dB CNEL when there are no outdoor uses associated with the project. Because the proposed project does not include any outdoor activity areas, the outdoor noise limits do not apply. Only the interior noise requirement is applicable. Therefore, independent of which noise contour set is used to evaluate the project, it is compatible with General Plan Noise Element of the County of Orange. The possible exception to this conclusion may be in reference to the Interim Care Facility (ICF) where an outdoor recreation use has been requested. Relative to the existing General Plan Noise Element Policy Implementation Line and the 1994 calendar year noise exposure this use would not be compatible with the General Plan if the ICF were evaluated as a residential use. However, the ICF can be evaluated as a hotel/motel on the basis that the use is a temporary residence and that occupants are not housed on a long term basis. Thus the ICF and its outdoor area may be considered consistent the General Plan.

With respect to interior noise levels, the amount of building attenuation required to achieve the 45 dB CNEL interior noise level does vary between the 'policy implementation line' and the civilian air carrier airport noise contours. With respect to the 'policy implementation line' the buildings with noise sensitive uses would have to provide 22 to 30 dB of outdoor to indoor noise reduction. With respect to the estimated civilian air carrier airport the buildings with noise sensitive uses would have to provide less than 15 to 21 dB of outdoor to indoor noise reduction. Even the higher noise reduction requirement is practical and achievable with normal construction provided that adequate window and door designs are used. Given that the jail is mechanically ventilated and built of very special construction, meeting these interior noise requirements will not be difficult. For example, the jail buildings are designed

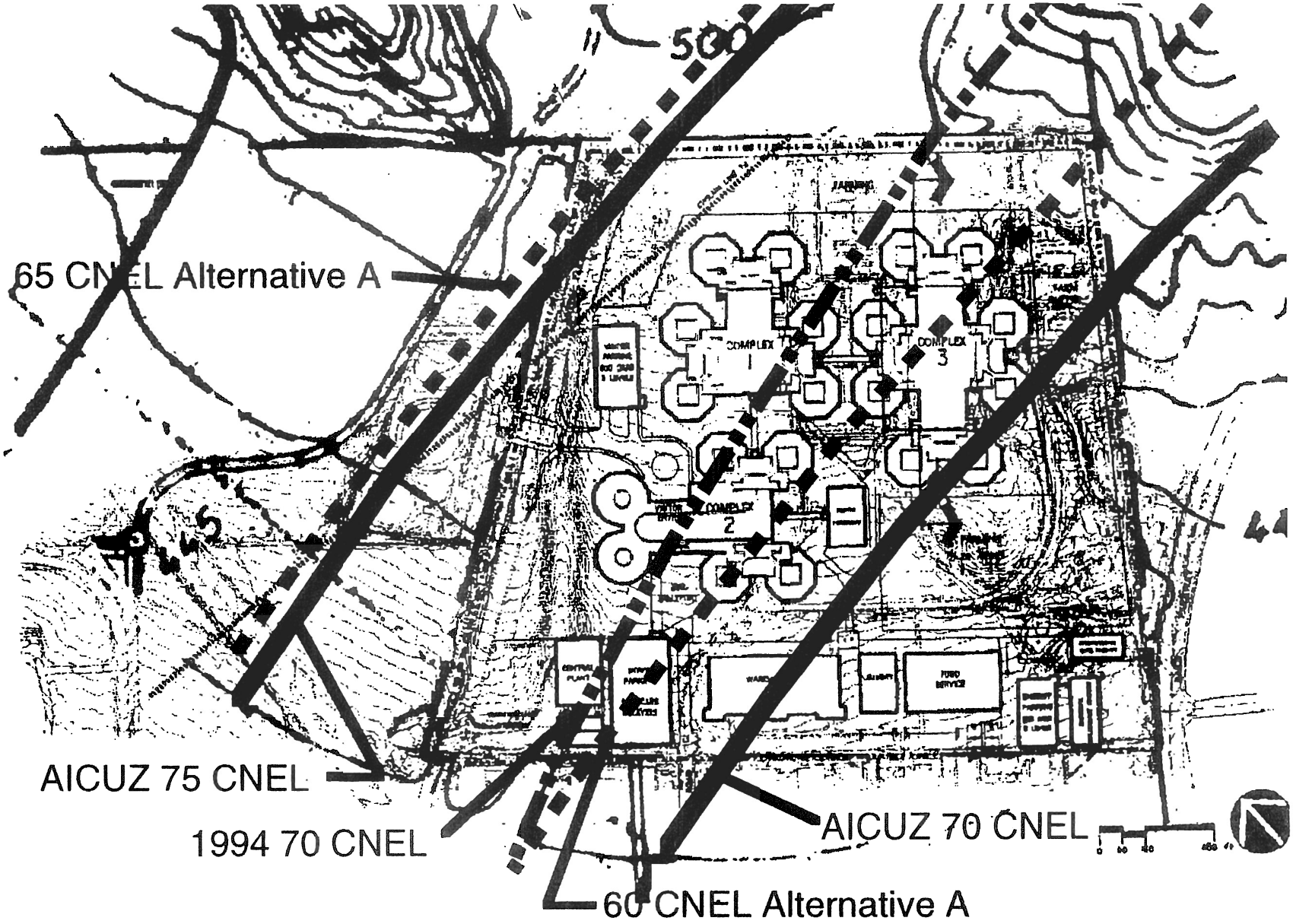

Exhibit 3 Approximate Location of Noise Contours On Site Plan (source: 1981 AICUZ and Draft EIR # 563)

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TABLE II-3*

COMPATIBILITY MATRIX FOR LAND USES AND
COMMUNITY NOISE EQUIVALENT LEVELS
(CNEL)

TYPE OF USE	65+ decibels CNEL	60 to 65 decibels CNEL
Residential	3a, b, e	2a, e
Commercial	2c	2c
Employment	2c	2c
Open Space		
Local	2c	2c
Community	2c	2c
Regional	2c	2c
Educational Facilities		
Schools (K through 12)	2c, d, e	2c, d, e
Preschool, college, other	2c, d, e	2c, d, e
Places of Worship	2c, d, e,	2c, d, e
Hospitals		
General	2a, c, d, e	2a, c, d, e
Convalescent	2a, c, d, e	2a, c, d, e
Group Quarters	1a, b, c, e	2a, c, e
Hotels/Motels	2a, c	2a, c
Accessory Uses		
Executive Apartments	1a, b, e	2a, e
Caretakers	1a, b, c, e	2a, c, e

Note: See Table II-4 for definitions of the entries in this table.

*Verbatim excerpt from Noise Element. For the purpose of complying with Table II-3 Criteria, the noise levels from all sources will be combined and rated in terms of Community Noise Equivalent Level (CNEL).

Exhibit 4
Noise and Land Use Compatibility Matrix

TABLE II-4

EXPLANATIONS AND DEFINITIONS ON TABLE II-3

ACTION REQUIRED TO ENSURE COMPATIBILITY
BETWEEN LAND USE AND NOISE FROM EXTERNAL SOURCES

1 = Allowed if interior and exterior community noise levels can be mitigated.

2 = Allowed if interior levels can be mitigated.

3 = New residential uses are prohibited in areas within the 65-decibel CNEL contour from any airport or air station; allowed in other areas if interior and exterior community noise levels can be mitigated. The prohibition against new residential development excludes limited "infill" development within an established neighborhood.

STANDARDS REQUIRED FOR COMPATIBILITY OF LAND USE AND NOISE

a = Interior Standard: CNEL of less than 45-decibels (habitable rooms only)

b = Exterior Standard: CNEL of less than 65-decibels from any source in outdoor living areas.

c = Interior Standard: Leq(h) = 45 to 65 decibels interior noise level, depending on interior use.

TYPICAL USE	Leq (h)*
Private Office, Church Sanctuary, College, Preschool, Schools (Grade K-12), Board Room, Conference Room, etc.	45
General office, Reception, Clerical, etc.	50
Other Schools and Colleges	52
Bank Lobby, Retail Store, Restaurant, Typing Pool, etc.	55
Manufacturing, Kitchen, Warehousing, etc.	65

d = Exterior Standard: Leq(h) of less than 65 decibels in outdoor living areas.

e = Interior Standard: As approved by the Board of Supervisors for sound events of short duration such as aircraft flyovers or individual passing railroad trains.

* h = Time duration of usage in hours.

Exhibit 5
Noise/Land Use Compatibility Requirements

such that inmates are not housed adjacent to exterior walls. Staff and utility rooms are adjacent to the exterior walls with interior walls and corridor separating the inmate areas from the exterior walls. Such a separation would provide a substantial amount of additional exterior noise attenuation. The Interim Care Facility (ICF), which is designed much more like a residential home, may require upgraded doors and windows to meet the interior noise standards. Actual specification of upgrades should be determined at the time of architectural design.

With respect to other miscellaneous uses within the jail and sheriffs station complex, the County of Orange General Plan Noise Element also identifies interior noise standards for other uses. These are defined in Exhibits 4 and 5 and include interior Equivalent Noise Level (Leq) limits of 45 dB for private offices, school rooms, and conference rooms; 50 dB for general offices, reception areas and clerical areas; 55 dB for restaurants; and 65 dB for kitchens. All of these noise limits are achievable with normal construction, with the exception of private offices, schoolrooms, and conference rooms where window and/or door upgrades may be necessary to meet the interior noise standard.

3.0 MITIGATION MEASURES

The following mitigation measures are proposed.

1. Construction activities must comply with the County of Orange Noise Ordinances and standard conditions of approval. This will result in restricting the hours and days of construction per the local ordinance.

2. On-site public address systems, bells, or other audible signal systems should be designed to be inaudible in the adjacent residential areas or prohibited. Any such devices included in the project should be reviewed to ensure that they comply with the requirements of Orange County Noise Ordinance, neglecting any exceptions for emergency warning devices.

3. Ingress and Egress should be taken only on major streets and should not utilize any local collector residential streets. This includes service vehicles as well as all other jail traffic.

4. Mechanical equipment installed on the jail site, including the Central Plant, must conform to the requirements of the Orange County Noise Ordinance.

5. At the time of architectural plan review, interior noise level standard

compliance for noise sensitive interior areas (per the County of Orange General Plan Noise Element) should be evaluated and ensured.

APPENDIX

MESTRE GREVE ASSOCIATES
INCREASE IN CNEL NOISE LEVELS (dBA)
8/8/96

Road	Link	******** Noise Increase ******** No Project Over Existing	With Project Over No Project	******* ADT In Thousands ******* Existing	2020 No Project	2020 With Project
SAND CANYON ROAD						
	I-5 Freeway to Trabuco Road	*0.5*	*0.0*	23	26	26
	Trabuco Road to Irvine Blvd	*1.0*	*0.0*	16	20	20
	North of Irvine Blvd.	*2.6*	*0.0*	10	18	18
ETC (EASTERN TRANSPORTATION CORRIDOR)						
	I-5 Freeway to Irvine Blvd	-	*0.0*	-	53	53
	North of Irvine Blvd.	-	*0.0*	-	19	19
ALTON PARKWAY						
	SR-133 to Irvine Center Dr.	*1.6*	*0.0*	20	29	29
	Irvine Center Dr. to I-5 Freeway	*0.9*	*0.0*	35	43	43
	North to I-5 Freeway	*0.8*	*0.1*	53	62	64
	West of Rockfield	*1.1*	*0.2*	45	56	58
	Rockfield to Muirlands	*0.3*	*0.2*	45	46	48
	Muirlands to Jeronimo	*1.2*	*0.2*	41	52	54
	Jeronimo to Toledo	*0.7*	*0.2*	32	36	38
	Toledo to Trabuco	*2.9*	*0.3*	14	25	27
	North of Trabuco	-	*0.0*	-	33	33
BAKE PARKWAY						
	Moulton to I-5 Freeway	-	*0.0*	-	43	43
	Rockfield to I-5 Freeway	*4.9*	*0.1*	16	49	50
	Rockfield to Muirlands	*5.6*	*0.1*	15	53	54
	Muirlands to Jeronimo	*2.7*	*0.1*	21	38	39
	Jeronimo to Toledo	*3.2*	*0.1*	19	39	40
	Toledo to Trabuco	*3.3*	*0.1*	21	44	45
	North of Trabuco	*1.0*	*0.0*	22	28	28
LAKE FOREST DRIVE						
	I-5 Freeway to Rockfield	*-1.6*	*0.0*	73	51	51
	Rockfield to Muirlands	*-1.2*	*0.0*	45	34	34
	Muirlands to Jeronimo	*-0.4*	*0.0*	36	33	33
	Jeronimo to Toledo	*0.5*	*0.0*	32	36	36
	Toledo to Trabuco	*-0.5*	*0.0*	30	27	27
	North of Trabuco	*0.0*	*0.0*	27	27	27
RIDGE ROUTE						
	I-5 Freeway to Rockfield	-	*0.0*	-	17	17
	Rockfield to Muirlands	*1.6*	*0.0*	9	13	13
	Muirlands to Jeronimo	*0.0*	*0.0*	12	12	12
	Jeronimo to Toledo	*0.0*	*0.0*	10	10	10
	Toledo to Trabuco	*1.1*	*0.0*	7	9	9
EL TORO ROAD						
	I-5 Freeway to Rockfield	*1.0*	*0.0*	52	66	66
	Rockfield to Muirlands	*0.6*	*0.0*	41	47	47
	Muirlands to Jeronimo	*1.6*	*0.0*	37	53	53
	Jeronimo to Toledo	*1.5*	*0.0*	34	48	48
	Toledo to Trabuco	*2.5*	*0.0*	29	52	52
	North of Trabuco	*2.0*	*0.0*	29	46	46
IRVINE BOULEVARD						
	West of Sand Canyon Road	*2.2*	*0.0*	21	35	35
	Sand Canyon Rd to ETC	-	*0.0*	-	33	33
	East of Sand Canyon Road	*1.6*	*0.1*	24	34	35

MESTRE GREVE ASSOCIATES
INCREASE IN CNEL NOISE LEVELS (dBA)
8/8/96

Road	Link	******** Noise Increase ******** No Project Over Existing	With Project Over No Project	******* ADT In Thousands ******* Existing	2020 No Project	2020 With Project
TRABUCO ROAD						
	West of Alton Parkway	*2.1*	*0.1*	23	36	37
	Alton Parkway to Bake Parkway	*1.7*	*0.2*	30	42	44
	East of Bake Parkway	*1.6*	*0.0*	25	36	36
	West of Lake Forest	*0.8*	*0.0*	30	36	36
	Lake Forest to Ridge Route	*2.3*	*0.0*	29	49	49
	Ridge Route to El Toro Road	*2.7*	*0.0*	26	48	48
	El Toro Road to Los Alisos	*0.8*	*0.0*	26	31	31
TOLEDO WAY						
	Alton Parkway to Bake Parkway	*-1.8*	*0.0*	12	8	8
	Bake Parkway to Lake Forest	*3.0*	*0.0*	8	16	16
	Lake Forest to Ridge Route	*3.6*	*0.0*	7	16	16
	Ridge Route to El Toro Road	*4.3*	*0.0*	6	16	16
JERONIMO ROAD						
	Alton Parkway to Bake Parkway	*2.3*	*0.0*	13	22	22
	Bake Parkway to Lake Forest	*2.5*	*0.0*	14	25	25
	Lake Forest to Ridge Route	*-0.6*	*0.0*	15	13	13
	Ridge Route to El Toro Road	*0.0*	*0.0*	16	16	16
	El Toro Road to Los Alisos	*0.6*	*0.0*	25	29	29
BARRANCA PARKWAY						
	SR-133 to Irvine Center Dr.	*1.2*	*0.0*	15	20	20
	Irvine Center Dr. to I-5	*1.5*	*0.0*	20	28	28
	I-5 to Technology	*1.0*	*0.0*	23	29	29
	Technology to Alton Parkway	*1.1*	*0.0*	20	26	26
MUIRLANDS BOULEVARD						
	Alton Parkway to Bake Parkway	*-1.3*	*0.0*	42	31	31
	Bake Parkway to Lake Forest	*2.5*	*0.0*	21	37	37
	Lake Forest to Ridge Route	*1.0*	*0.0*	23	29	29
	Ridge Route to El Toro Road	*0.5*	*0.0*	23	26	26
	El Toro Road to Los Alisos	*0.5*	*0.0*	24	27	27
ROCKFIELD BOULEVARD						
	Alton Parkway to Bake Parkway	-	*0.0*	-	15	15
	Bake Parkway to Lake Forest	*-0.5*	*0.0*	26	23	23
	Lake Forest to Ridge Route	*2.4*	*0.0*	20	35	35
	Ridge Route to El Toro Road	*1.0*	*0.0*	22	28	28
	El Toro Road to Los Alisos	*2.4*	*0.0*	20	35	35
I-5 FREEWAY						
	Jeffrey Road to Sand Canyon Rd.	*1.6*	*0.0*	186	267	269
	Sand Canyon Ave. to Alton Parkway	*1.2*	*0.0*	174	228	230
	Alton Parkway to I-405 Freeway	*1.7*	*0.0*	156	229	229
	I-405 Freeway to Bake Parkway	*1.2*	*0.0*	310	409	410
	Bake Parkway to Lake Forest	*1.0*	*0.0*	310	392	392
	Lake Forest to El Toro Road	*1.6*	*0.0*	266	382	382
	El Toro Road to Alicia Parkway	*1.3*	*0.0*	249	336	336
I-405 FREEWAY						
	SR-133 to Moulton Parkway	*0.1*	*0.0*	187	190	191
	Moulton Parkway to I-5 Freeway	*0.6*	*0.0*	156	180	181

MESTRE GREVE ASSOCIATES
EXISTING CNEL CONTOUR SPREADSHEET
8/8/96

Index Key:	*Orange County Arterial Mix*	1
	Freeway w/ 5% Trucks (2.5% MT, 2.5% HT)	2
	Freeway w/ 7% Trucks (3.5% MT, 3.5% HT)	3

Roadway	Link	Distance to CNEL Contour (ft) 70 CNEL	65 CNEL	60 CNEL	ADT (x1000)	Speed	Index	CNEL100	Barr. Att.
SAND CANYON ROAD									
	I-5 Freeway to Trabuco Road	54	117	252	23	45	1	66.0	0
	Trabuco Road to Irvine Blvd	43	92	198	16	45	1	64.4	0
	North of Irvine Blvd.	31	67	145	10	45	1	62.4	0
ALTON PARKWAY									
	SR-133 to Irvine Center Dr.	49	107	230	20	45	1	65.4	0
	Irvine Center Dr. to I-5 Freeway	72	155	334	35	45	1	67.8	0
	North to I-5 Freeway	95	204	440	53	45	1	69.6	0
	West of Rockfield	85	183	395	45	45	1	68.9	0
	Rockfield to Muirlands	85	183	395	45	45	1	68.9	0
	Muirlands to Jeronimo	80	172	371	41	45	1	68.5	0
	Jeronimo to Toledo	68	146	314	32	45	1	67.5	0
	Toledo to Trabuco	39	84	181	14	45	1	63.9	0
BAKE PARKWAY									
	Rockfield to I-5 Freeway	43	92	198	16	45	1	64.4	0
	Rockfield to Muirlands	41	88	190	15	45	1	64.2	0
	Muirlands to Jeronimo	51	110	237	21	45	1	65.6	0
	Jeronimo to Toledo	48	103	222	19	45	1	65.2	0
	Toledo to Trabuco	51	110	237	21	45	1	65.6	0
	North of Trabuco	53	114	245	22	45	1	65.8	0
LAKE FOREST DRIVE									
	I-5 Freeway to Rockfield	117	253	545	73	45	1	71.0	0
	Rockfield to Muirlands	85	183	395	45	45	1	68.9	0
	Muirlands to Jeronimo	73	158	340	36	45	1	68.0	0
	Jeronimo to Toledo	68	146	314	32	45	1	67.5	0
	Toledo to Trabuco	65	140	301	30	45	1	67.2	0
	North of Trabuco	60	130	281	27	45	1	66.7	0
RIDGE ROUTE									
	Rockfield to Muirlands	29	63	135	9	45	1	61.9	0
	Muirlands to Jeronimo	35	76	163	12	45	1	63.2	0
	Jeronimo to Toledo	31	67	145	10	45	1	62.4	0
	Toledo to Trabuco	25	53	114	7	45	1	60.9	0
EL TORO ROAD									
	I-5 Freeway to Rockfield	94	202	434	52	45	1	69.6	0
	Rockfield to Muirlands	80	172	371	41	45	1	68.5	0
	Muirlands to Jeronimo	75	161	346	37	45	1	68.1	0
	Jeronimo to Toledo	70	152	327	34	45	1	67.7	0
	Toledo to Trabuco	63	137	294	29	45	1	67.0	0
	North of Trabuco	63	137	294	29	45	1	67.0	0
IRVINE BOULEVARD									
	West of Sand Canyon Road	51	110	237	21	45	1	65.6	0
	East of Sand Canyon Road	56	120	259	24	45	1	66.2	0

MESTRE GREVE ASSOCIATES
EXISTING CNEL CONTOUR SPREADSHEET
8/8/96

Index Key: *Orange County Arterial Mix* 1
Freeway w/ 5% Trucks (2.5% MT, 2.5% HT) 2
Freeway w/ 7% Trucks (3.5% MT, 3.5% HT) 3

Roadway	Link	Distance to CNEL Contour (ft) 70 CNEL	65 CNEL	60 CNEL	ADT (x1000)	Speed	Index	CNEL100	Barr. Att.
TRABUCO ROAD									
	West of Alton Parkway	54	117	252	23	45	1	66.0	0
	Alton Parkway to Bake Parkway	65	140	301	30	45	1	67.2	0
	East of Bake Parkway	57	124	267	25	45	1	66.4	0
	West of Lake Forest	65	140	301	30	45	1	67.2	0
	Lake Forest to Ridge Route	63	137	294	29	45	1	67.0	0
	Ridge Route to El Toro Road	59	127	274	26	45	1	66.6	0
	El Toro Road to Los Alisos	59	127	274	26	45	1	66.6	0
TOLEDO WAY									
	Alton Parkway to Bake Parkway	35	76	163	12	45	1	63.2	0
	Bake Parkway to Lake Forest	27	58	125	8	45	1	61.4	0
	Lake Forest to Ridge Route	25	53	114	7	45	1	60.9	0
	Ridge Route to El Toro Road	22	48	103	6	45	1	60.2	0
JERONIMO ROAD									
	Alton Parkway to Bake Parkway	37	80	172	13	45	1	63.5	0
	Bake Parkway to Lake Forest	39	84	181	14	45	1	63.9	0
	Lake Forest to Ridge Route	41	88	190	15	45	1	64.2	0
	Ridge Route to El Toro Road	43	92	198	16	45	1	64.4	0
	El Toro Road to Los Alisos	57	124	267	25	45	1	66.4	0
BARRANCA PARKWAY									
	SR-133 to Irvine Center Dr.	41	88	190	15	45	1	64.2	0
	Irvine Center Dr. to I-5	49	107	230	20	45	1	65.4	0
	I-5 to Technology	54	117	252	23	45	1	66.0	0
	Technology to Alton Parkway	49	107	230	20	45	1	65.4	0
MUIRLANDS BOULEVARD									
	Alton Parkway to Bake Parkway	81	175	377	42	45	1	68.6	0
	Bake Parkway to Lake Forest	51	110	237	21	45	1	65.6	0
	Lake Forest to Ridge Route	54	117	252	23	45	1	66.0	0
	Ridge Route to El Toro Road	54	117	252	23	45	1	66.0	0
	El Toro Road to Los Alisos	56	120	259	24	45	1	66.2	0
ROCKFIELD BOULEVARD									
	Bake Parkway to Lake Forest	59	127	274	26	45	1	66.6	0
	Lake Forest to Ridge Route	49	107	230	20	45	1	65.4	0
	Ridge Route to El Toro Road	53	114	245	22	45	1	65.8	0
	El Toro Road to Los Alisos	49	107	230	20	45	1	65.4	0
I-5 FREEWAY									
	Jeffrey Road to Sand Canyon Rd.	495	1,066	2,296	186	60	3	80.4	0
	Sand Canyon Ave. to Alton Parkway	473	1,019	2,197	174	60	3	80.1	0
	Alton Parkway to I-405 Freeway	440	948	2,042	156	60	3	79.6	0
	I-405 Freeway to Bake Parkway	695	1,498	3,228	310	60	3	82.6	0
	Bake Parkway to Lake Forest	695	1,498	3,228	310	60	3	82.6	0
	Lake Forest to El Toro Road	628	1,353	2,915	266	60	3	82.0	0
	El Toro Road to Alicia Parkway	601	1,295	2,790	249	60	3	81.7	0
I-405 FREEWAY									
	SR-133 to Moulton Parkway	443	955	2,057	187	60	2	79.7	0
	Moulton Parkway to I-5 Freeway	393	846	1,823	156	60	2	78.9	0

MESTRE GREVE ASSOCIATES
2020 NO PROJECT CNEL CONTOUR SPREADSHEET
8/8/96

Index Key: *Orange County Arterial Mix* 1
Freeway w/ 5% Trucks (2.5% MT, 2.5% HT) 2
Freeway w/ 7% Trucks (3.5% MT, 3.5% HT) 3

Roadway	Link	Distance to CNEL Contour (ft) 70 CNEL	65 CNEL	60 CNEL	ADT (x1000)	Speed	Index	CNEL100	Barr. Att.
SAND CANYON ROAD									
	I-5 Freeway to Trabuco Road	59	127	274	26	45	1	66.6	0
	Trabuco Road to Irvine Blvd	49	107	230	20	45	1	65.4	0
	North of Irvine Blvd.	46	99	214	18	45	1	65.0	0
ETC (EASTERN TRANSPORTATION CORRIDOR)									
	I-5 Freeway to Irvine Blvd	214	461	994	53	60	3	75.0	0
	North of Irvine Blvd.	108	233	502	19	60	3	70.5	0
ALTON PARKWAY									
	SR-133 to Irvine Center Dr.	63	137	294	29	45	1	67.0	0
	Irvine Center Dr. to I-5 Freeway	82	178	383	43	45	1	68.7	0
	North to I-5 Freeway	105	227	489	62	45	1	70.3	0
	West of Rockfield	98	212	456	56	45	1	69.9	0
	Rockfield to Muirlands	86	186	400	46	45	1	69.0	0
	Muirlands to Jeronimo	94	202	434	52	45	1	69.6	0
	Jeronimo to Toledo	73	158	340	36	45	1	68.0	0
	Toledo to Trabuco	57	124	267	25	45	1	66.4	0
	North of Trabuco	69	149	321	33	45	1	67.6	0
BAKE PARKWAY									
	Moulton to I-5 Freeway	82	178	383	43	45	1	68.7	0
	Rockfield to I-5 Freeway	90	194	418	49	45	1	69.3	0
	Rockfield to Muirlands	95	204	440	53	45	1	69.6	0
	Muirlands to Jeronimo	76	164	352	38	45	1	68.2	0
	Jeronimo to Toledo	77	166	359	39	45	1	68.3	0
	Toledo to Trabuco	84	180	389	44	45	1	68.8	0
	North of Trabuco	62	133	288	28	45	1	66.9	0
LAKE FOREST DRIVE									
	I-5 Freeway to Rockfield	92	199	429	51	45	1	69.5	0
	Rockfield to Muirlands	70	152	327	34	45	1	67.7	0
	Muirlands to Jeronimo	69	149	321	33	45	1	67.6	0
	Jeronimo to Toledo	73	158	340	36	45	1	68.0	0
	Toledo to Trabuco	60	130	281	27	45	1	66.7	0
	North of Trabuco	60	130	281	27	45	1	66.7	0
RIDGE ROUTE									
	I-5 Freeway to Rockfield	44	96	206	17	45	1	64.7	0
	Rockfield to Muirlands	37	80	172	13	45	1	63.5	0
	Muirlands to Jeronimo	35	76	163	12	45	1	63.2	0
	Jeronimo to Toledo	31	67	145	10	45	1	62.4	0
	Toledo to Trabuco	29	63	135	9	45	1	61.9	0
EL TORO ROAD									
	I-5 Freeway to Rockfield	110	236	509	66	45	1	70.6	0
	Rockfield to Muirlands	87	188	406	47	45	1	69.1	0
	Muirlands to Jeronimo	95	204	440	53	45	1	69.6	0
	Jeronimo to Toledo	89	191	412	48	45	1	69.2	0
	Toledo to Trabuco	94	202	434	52	45	1	69.6	0
	North of Trabuco	86	186	400	46	45	1	69.0	0
IRVINE BOULEVARD									
	West of Sand Canyon Road	72	155	334	35	45	1	67.8	0
	Sand Canyon Rd to ETC	69	149	321	33	45	1	67.6	0
	East of Sand Canyon Road	70	152	327	34	45	1	67.7	0

MESTRE GREVE ASSOCIATES
2020 NO PROJECT CNEL CONTOUR SPREADSHEET
8/8/96

Index Key:	*Orange County Arterial Mix*	1
	Freeway w/ 5% Trucks (2.5% MT, 2.5% HT)	2
	Freeway w/ 7% Trucks (3.5% MT, 3.5% HT)	3

Roadway	Link	Distance to CNEL Contour (ft) 70 CNEL	65 CNEL	60 CNEL	ADT (x1000)	Speed	Index	CNEL100	Barr. Att.
TRABUCO ROAD									
	West of Alton Parkway	73	158	340	36	45	1	68.0	0
	Alton Parkway to Bake Parkway	81	175	377	42	45	1	68.6	0
	East of Bake Parkway	73	158	340	36	45	1	68.0	0
	West of Lake Forest	73	158	340	36	45	1	68.0	0
	Lake Forest to Ridge Route	90	194	418	49	45	1	69.3	0
	Ridge Route to El Toro Road	89	191	412	48	45	1	69.2	0
	El Toro Road to Los Alisos	66	143	308	31	45	1	67.3	0
TOLEDO WAY									
	Alton Parkway to Bake Parkway	27	58	125	8	45	1	61.4	0
	Bake Parkway to Lake Forest	43	92	198	16	45	1	64.4	0
	Lake Forest to Ridge Route	43	92	198	16	45	1	64.4	0
	Ridge Route to El Toro Road	43	92	198	16	45	1	64.4	0
JERONIMO ROAD									
	Alton Parkway to Bake Parkway	53	114	245	22	45	1	65.8	0
	Bake Parkway to Lake Forest	57	124	267	25	45	1	66.4	0
	Lake Forest to Ridge Route	37	80	172	13	45	1	63.5	0
	Ridge Route to El Toro Road	43	92	198	16	45	1	64.4	0
	El Toro Road to Los Alisos	63	137	294	29	45	1	67.0	0
BARRANCA PARKWAY									
	SR-133 to Irvine Center Dr.	49	107	230	20	45	1	65.4	0
	Irvine Center Dr. to I-5	62	133	288	28	45	1	66.9	0
	I-5 to Technology	63	137	294	29	45	1	67.0	0
	Technology to Alton Parkway	59	127	274	26	45	1	66.6	0
MUIRLANDS BOULEVARD									
	Alton Parkway to Bake Parkway	66	143	308	31	45	1	67.3	0
	Bake Parkway to Lake Forest	75	161	346	37	45	1	68.1	0
	Lake Forest to Ridge Route	63	137	294	29	45	1	67.0	0
	Ridge Route to El Toro Road	59	127	274	26	45	1	66.6	0
	El Toro Road to Los Alisos	60	130	281	27	45	1	66.7	0
ROCKFIELD BOULEVARD									
	Alton Parkway to Bake Parkway	41	88	190	15	45	1	64.2	0
	Bake Parkway to Lake Forest	54	117	252	23	45	1	66.0	0
	Lake Forest to Ridge Route	72	155	334	35	45	1	67.8	0
	Ridge Route to El Toro Road	62	133	288	28	45	1	66.9	0
	El Toro Road to Los Alisos	72	155	334	35	45	1	67.8	0
I-5 FREEWAY									
	Jeffrey Road to Sand Canyon Rd.	629	1,356	2,922	267	60	3	82.0	0
	Sand Canyon Ave. to Alton Parkway	567	1,221	2,630	228	60	3	81.3	0
	Alton Parkway to I-405 Freeway	568	1,224	2,638	229	60	3	81.3	0
	I-405 Freeway to Bake Parkway	836	1,802	3,884	409	60	3	83.8	0
	Bake Parkway to Lake Forest	813	1,752	3,775	392	60	3	83.6	0
	Lake Forest to El Toro Road	799	1,722	3,711	382	60	3	83.5	0
	El Toro Road to Alicia Parkway	734	1,581	3,407	336	60	3	83.0	0
I-405 FREEWAY									
	SR-133 to Moulton Parkway	448	965	2,079	190	60	2	79.8	0
	Moulton Parkway to I-5 Freeway	432	931	2,006	180	60	2	79.5	0

MESTRE GREVE ASSOCIATES
2020 WITH PROJECT CNEL CONTOUR SPREADSHEET
8/8/96

Index Key: *Orange County Arterial Mix* 1
Freeway w/ 5% Trucks (2.5% MT, 2.5% HT) 2
Freeway w/ 7% Trucks (3.5% MT, 3.5% HT) 3

Roadway	Link	Distance to CNEL Contour (ft) 70 CNEL	65 CNEL	60 CNEL	ADT (x1000)	Speed	Index	CNEL100	Barr. Att.
SAND CANYON ROAD									
	I-5 Freeway to Trabuco Road	59	127	274	26	45	1	66.6	0
	Trabuco Road to Irvine Blvd	49	107	230	20	45	1	65.4	0
	North of Irvine Blvd.	46	99	214	18	45	1	65.0	0
ETC (EASTERN TRANSPORTATION CORRIDOR)									
	I-5 Freeway to Irvine Blvd	214	461	994	53	60	3	75.0	0
	North of Irvine Blvd.	108	233	502	19	60	3	70.5	0
ALTON PARKWAY									
	SR-133 to Irvine Center Dr.	63	137	294	29	45	1	67.0	0
	Irvine Center Dr. to I-5 Freeway	82	178	383	43	45	1	68.7	0
	North to I-5 Freeway	107	232	499	64	45	1	70.5	0
	West of Rockfield	101	217	467	58	45	1	70.0	0
	Rockfield to Muirlands	89	191	412	48	45	1	69.2	0
	Muirlands to Jeronimo	96	207	446	54	45	1	69.7	0
	Jeronimo to Toledo	76	164	352	38	45	1	68.2	0
	Toledo to Trabuco	60	130	281	27	45	1	66.7	0
	North of Trabuco	69	149	321	33	45	1	67.6	0
BAKE PARKWAY									
	Moulton to I-5 Freeway	82	178	383	43	45	1	68.7	0
	Rockfield to I-5 Freeway	91	196	423	50	45	1	69.4	0
	Rockfield to Muirlands	96	207	446	54	45	1	69.7	0
	Muirlands to Jeronimo	77	166	359	39	45	1	68.3	0
	Jeronimo to Toledo	79	169	365	40	45	1	68.4	0
	Toledo to Trabuco	85	183	395	45	45	1	68.9	0
	North of Trabuco	62	133	288	28	45	1	66.9	0
LAKE FOREST DRIVE									
	I-5 Freeway to Rockfield	92	199	429	51	45	1	69.5	0
	Rockfield to Muirlands	70	152	327	34	45	1	67.7	0
	Muirlands to Jeronimo	69	149	321	33	45	1	67.6	0
	Jeronimo to Toledo	73	158	340	36	45	1	68.0	0
	Toledo to Trabuco	60	130	281	27	45	1	66.7	0
	North of Trabuco	60	130	281	27	45	1	66.7	0
RIDGE ROUTE									
	I-5 Freeway to Rockfield	44	96	206	17	45	1	64.7	0
	Rockfield to Muirlands	37	80	172	13	45	1	63.5	0
	Muirlands to Jeronimo	35	76	163	12	45	1	63.2	0
	Jeronimo to Toledo	31	67	145	10	45	1	62.4	0
	Toledo to Trabuco	29	63	135	9	45	1	61.9	0
EL TORO ROAD									
	I-5 Freeway to Rockfield	110	236	509	66	45	1	70.6	0
	Rockfield to Muirlands	87	188	406	47	45	1	69.1	0
	Muirlands to Jeronimo	95	204	440	53	45	1	69.6	0
	Jeronimo to Toledo	89	191	412	48	45	1	69.2	0
	Toledo to Trabuco	94	202	434	52	45	1	69.6	0
	North of Trabuco	86	186	400	46	45	1	69.0	0
IRVINE BOULEVARD									
	West of Sand Canyon Road	72	155	334	35	45	1	67.8	0
	Sand Canyon Rd to ETC	69	149	321	33	45	1	67.6	0
	East of Sand Canyon Road	72	155	334	35	45	1	67.8	0

MESTRE GREVE ASSOCIATES
2020 WITH PROJECT CNEL CONTOUR SPREADSHEET
8/8/96

Index Key:	*Orange County Arterial Mix*	1
	Freeway w/ 5% Trucks (2.5% MT, 2.5% HT)	2
	Freeway w/ 7% Trucks (3.5% MT, 3.5% HT)	3

Roadway	Link	Distance to CNEL Contour (ft) 70 CNEL	65 CNEL	60 CNEL	ADT (x1000)	Speed	Index	CNEL100	Barr. Att.
TRABUCO ROAD									
	West of Alton Parkway	75	161	346	37	45	1	68.1	0
	Alton Parkway to Bake Parkway	84	180	389	44	45	1	68.8	0
	East of Bake Parkway	73	158	340	36	45	1	68.0	0
	West of Lake Forest	73	158	340	36	45	1	68.0	0
	Lake Forest to Ridge Route	90	194	418	49	45	1	69.3	0
	Ridge Route to El Toro Road	89	191	412	48	45	1	69.2	0
	El Toro Road to Los Alisos	66	143	308	31	45	1	67.3	0
TOLEDO WAY									
	Alton Parkway to Bake Parkway	27	58	125	8	45	1	61.4	0
	Bake Parkway to Lake Forest	43	92	198	16	45	1	64.4	0
	Lake Forest to Ridge Route	43	92	198	16	45	1	64.4	0
	Ridge Route to El Toro Road	43	92	198	16	45	1	64.4	0
JERONIMO ROAD									
	Alton Parkway to Bake Parkway	53	114	245	22	45	1	65.8	0
	Bake Parkway to Lake Forest	57	124	267	25	45	1	66.4	0
	Lake Forest to Ridge Route	37	80	172	13	45	1	63.5	0
	Ridge Route to El Toro Road	43	92	198	16	45	1	64.4	0
	El Toro Road to Los Alisos	63	137	294	29	45	1	67.0	0
BARRANCA PARKWAY									
	SR-133 to Irvine Center Dr.	49	107	230	20	45	1	65.4	0
	Irvine Center Dr. to I-5	62	133	288	28	45	1	66.9	0
	I-5 to Technology	63	137	294	29	45	1	67.0	0
	Technology to Alton Parkway	59	127	274	26	45	1	66.6	0
MUIRLANDS BOULEVARD									
	Alton Parkway to Bake Parkway	66	143	308	31	45	1	67.3	0
	Bake Parkway to Lake Forest	75	161	346	37	45	1	68.1	0
	Lake Forest to Ridge Route	63	137	294	29	45	1	67.0	0
	Ridge Route to El Toro Road	59	127	274	26	45	1	66.6	0
	El Toro Road to Los Alisos	60	130	281	27	45	1	66.7	0
ROCKFIELD BOULEVARD									
	Alton Parkway to Bake Parkway	41	88	190	15	45	1	64.2	0
	Bake Parkway to Lake Forest	54	117	252	23	45	1	66.0	0
	Lake Forest to Ridge Route	72	155	334	35	45	1	67.8	0
	Ridge Route to El Toro Road	62	133	288	28	45	1	66.9	0
	El Toro Road to Los Alisos	72	155	334	35	45	1	67.8	0
I-5 FREEWAY									
	Jeffrey Road to Sand Canyon Rd.	633	1,363	2,937	269	60	3	82.0	0
	Sand Canyon Ave. to Alton Parkway	570	1,228	2,646	230	60	3	81.3	0
	Alton Parkway to I-405 Freeway	568	1,224	2,638	229	60	3	81.3	0
	I-405 Freeway to Bake Parkway	838	1,805	3,890	410	60	3	83.8	0
	Bake Parkway to Lake Forest	813	1,752	3,775	392	60	3	83.6	0
	Lake Forest to El Toro Road	799	1,722	3,711	382	60	3	83.5	0
	El Toro Road to Alicia Parkway	734	1,581	3,407	336	60	3	83.0	0
I-405 FREEWAY									
	SR-133 to Moulton Parkway	449	968	2,086	191	60	2	79.8	0
	Moulton Parkway to I-5 Freeway	434	934	2,013	181	60	2	79.5	0